Commonwealth of Kentucky
Division for Air Quality

PERMIT STATEMENT OF BASIS

FINAL CONDITIONAL MAJOR OPERATING PERMIT NO. F-06-039 R1
OHIO VALLEY ALUMINUM
SHELBYVILLE, KY
OCTOBER 27, 2008
VAHID BAKHTIAR, REVIEWER
PLANT I.D. #21-211-00001
ACTIVITY #: APE20080001
AI #: 3953

SOURCE DESCRIPTION:
Ohio Valley Aluminum (OVA) Corporation is a secondary aluminum processing plant located in Shelby County. OVA is classified as a conditional major source based on its ability to maintain HCl emissions below the 10 tons per year threshold for major sources.

On January 4, 1999, OVA submitted a construction/operation permit application to process coated and uncoated scrap in the reverberatory furnaces #1 and #5. The Division issued the final permit for the construction/operation of furnaces #1 and #5 on September 27, 1999. OVA performed particulate and hydrogen chloride tests on Furnace #1 on January 18, 2000, to comply with the secondary aluminum MACT. The average particulate emission rate during the three tests was 1.29 lb/hr, with the allowable being 14.66 lb/hr. The average emission rate of hydrogen chloride was 0.027 lb/ton of aluminum, compared to the allowable of 0.4 lb/ton. The compliance tests demonstrated that OVA's operation of the furnaces were within the regulatory emission limitations set forth by the MACT standard for secondary aluminum production.

OVA installed fume hoods over the furnaces and ducted the exhaust gas stream to a lime-injected baghouse in order to meet National emission standards for hazardous air pollutants (NESHAP) for secondary aluminum production. Limiting the hazardous air pollutants (HAPs), allows OVA to be classified as a conditional major source. Due to OVA's status as an area source for HAPs, the requirement for Title V permitting was deferred until December 9, 2004.

Other emission units located at OVA and included in the source-wide permit are homogenizing furnace #6, homogenizing furnace #7, holding furnace and alloy furnace # 2B, holding furnace and alloy furnace #4, homogenizing furnace #5, and reverberatory furnace #2. 401 KAR 59:010, New process operations, applies to all the emission points listed above. Compliance with the regulation is detailed in the emission limitations, monitoring, reporting, and recordkeeping subsections in the permit.

MINOR PERMIT REVISION 1, F-09-039 R1:

On June 6, 2008 Ohio Valley Aluminum Co., LLC (OVA) submitted an application to revise its existing permit F-06-039. OVA proposed to replace the open arch in Furnaces Numbers 1, 2 and 5 with a charge door to enclose the furnaces and control the exhaust of hot gases and products of combustion (POC) through the use of dampers and a new furnace flue. The damper and burner will be controlled using a series of limit switches and a PLC program to open and close the dampers depending on what is taking place inside the furnace. Emissions from the melting of other-than-clean (OTC) scrap will be captured using a hood and furnace flue duct designed in accordance with

chapters 3 and 5 of the ACGIH ventilation manual. OVA is also researching ways to make these melting furnaces more energy efficient and reduce the carbon foot-print of the facility.

Change(s) to permit (Renewal):

In March 2005, Ohio Valley Aluminum submitted a permit renewal application to its existing conditional major permit (F-00-015) for a secondary aluminum plant in Shelbyville, KY. In 2004, furnace # 2 was modified by adding a new hood identical to the other existing two with overall capture efficiency of 100% to process coated aluminum. As their current permit states, only one furnace at a time will process coated aluminum scrap, and no more than two furnaces shall be operated at the same time. Therefore, there will be no change in their emissions or their production rate. The emissions result from the lubricant oil used on the billet saw was added to the permit as an insignificant activity.

Ohio Valley Aluminum is subject to 40 CFR Subpart RRR for D/F emissions from group one furnaces (number 1, 2 and 5). Therefore, the MACT language was incorporated in their renewal permit.

PUBLIC AND U.S. EPA REVIEW:

On January 17, 2007, the public notice on availability of the draft permit and supporting material for comments by persons affected by the plant was published in Sentinel News in Shelbyville, Kentucky. The public comment period expired 30 days from the date of publication.

No comments received

No comments were received during this period. The permit is now being issued final.

COMMENTS:

The baghouse is designed and manufactured by Wheelabrator Canada, Inc. and installed by Schust Engineering, Inc. The baghouse is designed for 85,000 acfm at 375^{o}F with a gross air to cloth ratio of 2.57:1, using 1728 bags made of woven Nomex. The baghouse is designed with a spark arrestor, followed by a six (6) module shaker type baghouse with continuous automatic cleaning. The baghouse is equipped with a lime injection system to control the HCl emissions.

EMISSION AND OPERATING CAPS DESCRIPTION:

Ohio Valley Aluminum processes coated aluminum scrap in two of the plant's reverberatory furnaces. To preclude the requirements of a Title V permit, Ohio Valley Aluminum requested a self-imposed emission limitation of 9.00 tons per year of HCl. However, stack tests performed on the furnaces determined that the actual emission rate of HCl is well below regulatory emission limitations. The compliance tests insured that Ohio Valley Aluminum is in compliance with all emission limitations and maintains conditional major status.

PERIODIC MONITORING:

After constructing the Wheelabrator baghouse, Ohio Valley Aluminum performed stack tests on the reverberatory furnaces processing coated scrap. These stack tests provided data which will be used to develop emission factors to determine the emission rates from the baghouse. In order to calculate emissions, Ohio Valley must monitor the following as rolling 12-month totals:

Aluminum scrap throughput to the reverberatory melt furnaces and percent of coated scrap;
Flux usage;
Sorbent usage;
Aluminum production;
Hours of operation.

CREDIBLE EVIDENCE:

This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has only adopted the provisions of 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12 into its air quality regulations.